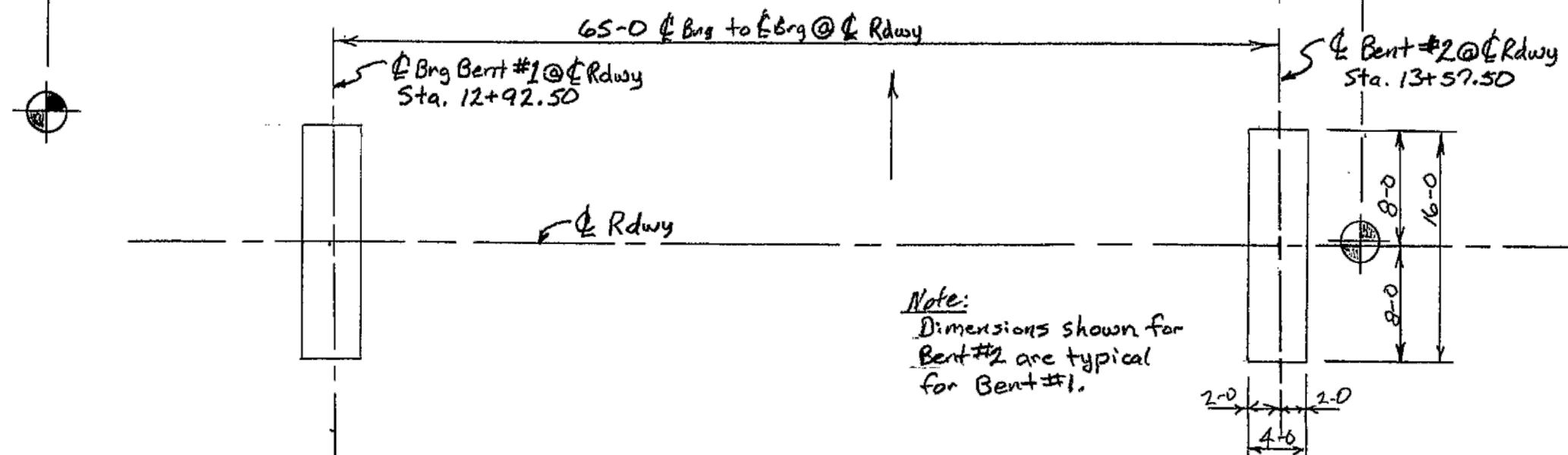


Note: See Special Provisions for Boring Logs.

Summary of Log Borings  
(See Special Provisions for Log)



FOOTING PLAN  
Scale: 1" = 10'

Calvin O. Frank, PE  
Consulting Engineer  
Buffalo, MT 59418

Calvin O. Frank June 3, 2019  
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REVISED BY: DATE:  
APPROVED BY: DATE:

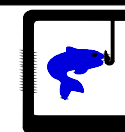
APPROVED BY: DATE:  
APPROVED BY: DATE:



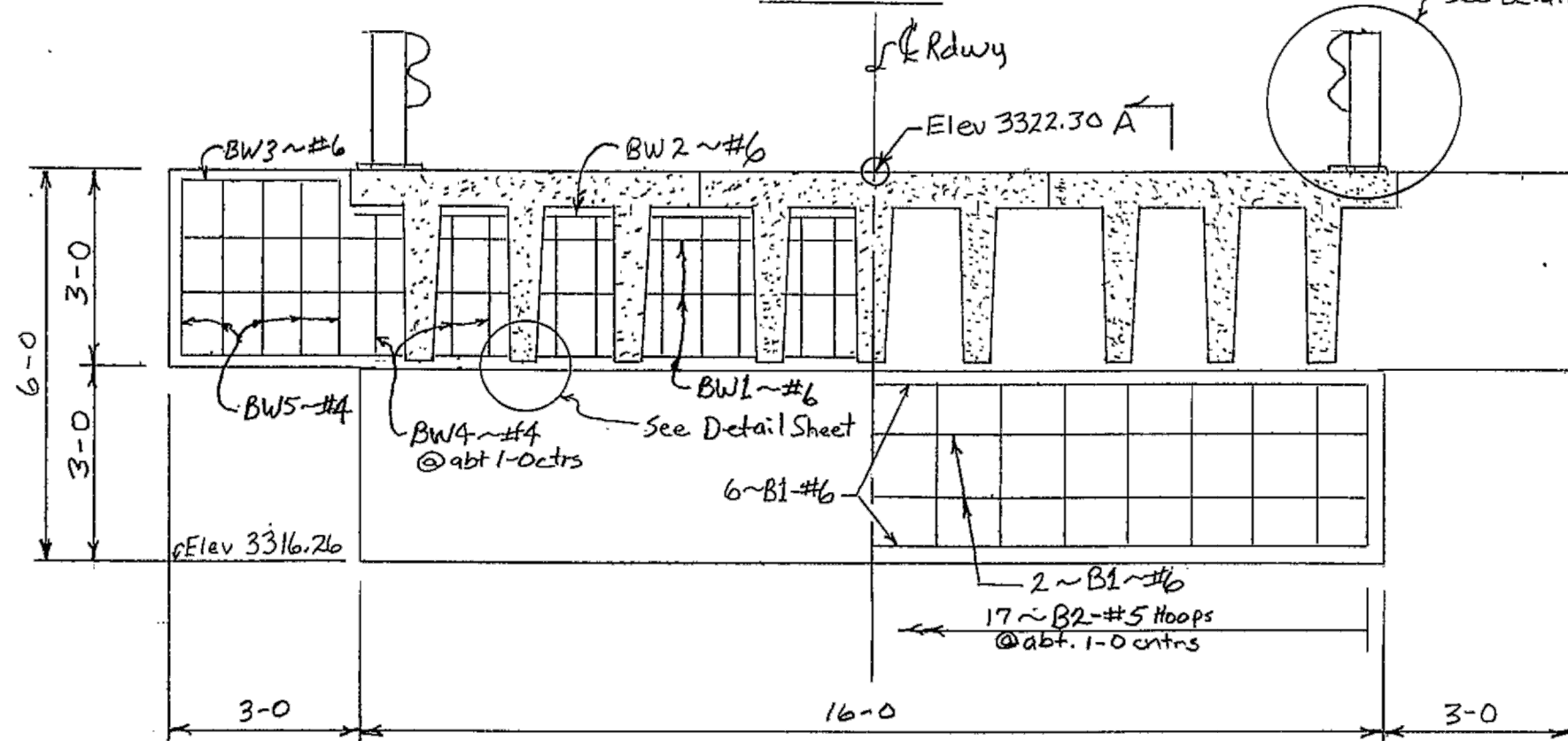
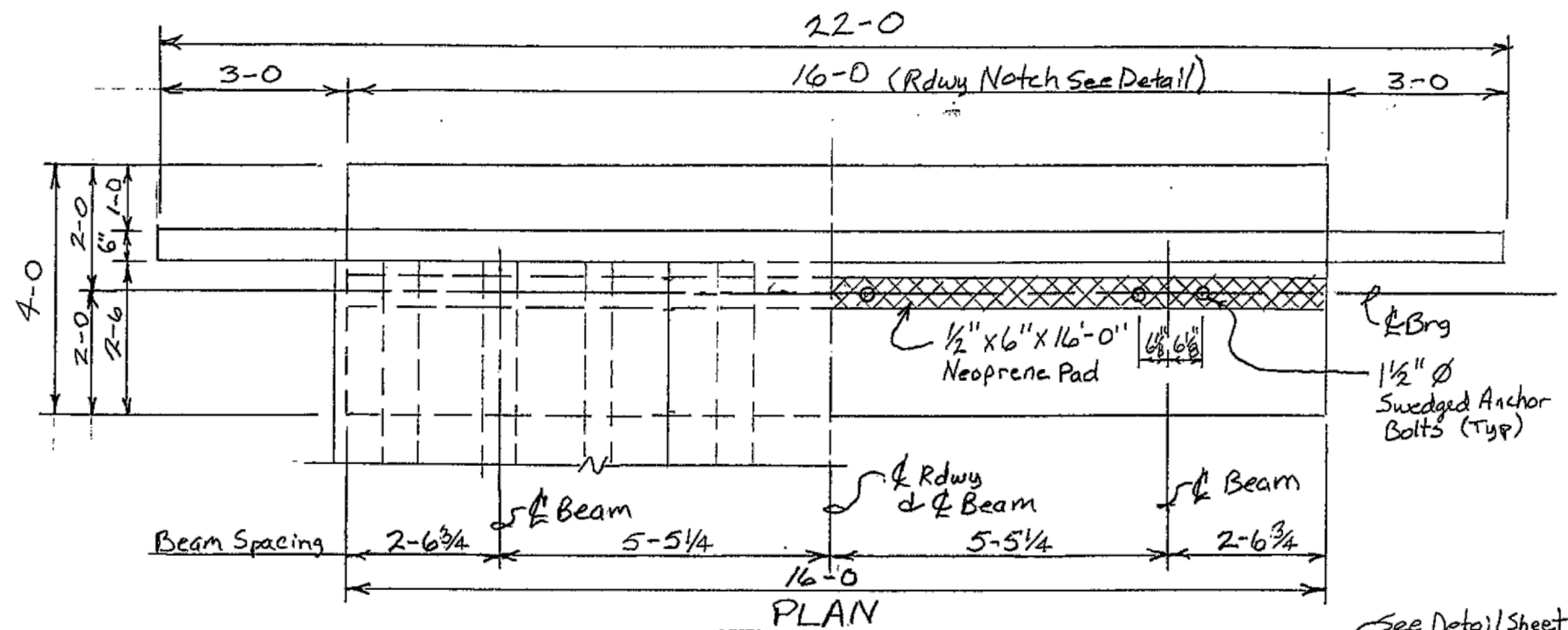
Montana Fish & Wildlife  
Wildlife & Parks

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Bridge Footing Plan  
Buffalo Mirage Fishing Access Site - Bridge Replacement



SHEET  
7 of 9



Note: Bent #1 shown Back on Line  
Bent #2 shown Ahead on Line

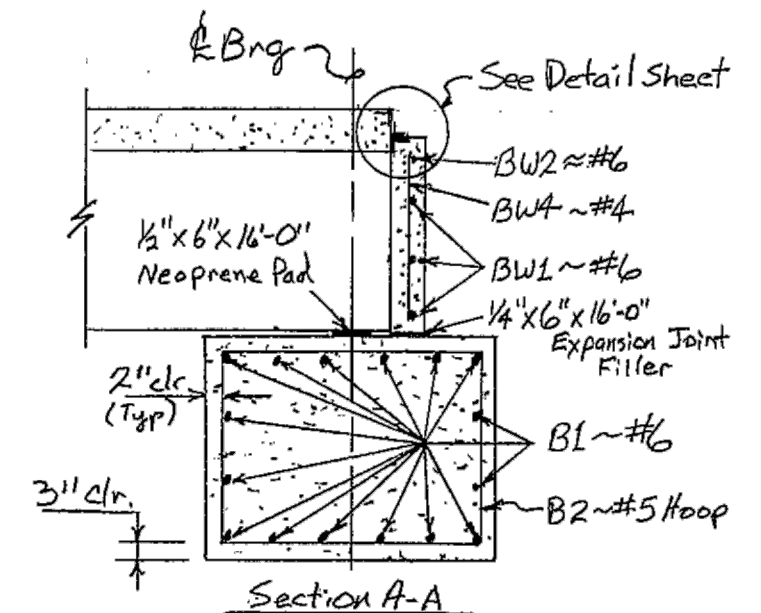
ELEVATION  
Scale: 3/8" = 1'-0"

# BILL OF REINFORCING STEEL

(FOR ONE BENT ONLY)  
(All Dimensions are out to out)

Length	Type	Str	A	B	C

Mark	Size	No.	Type	Length	A	B	C
B1	#6	16	Str	15-8			
B2	#5	17	T1	13-3	2-7	3-8	4 1/2"
BW1	#6	3	Str	21-8			
BW2	#6	1	Str	16-0			
BW3	#6	2	Str	2-6			
BW4	#4	17	Str	1-6			
BW5	#4	10	Str	2-7			



Calvin O. Frank, PE  
Consulting Engineer  
Buffalo, MT 59418

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APPROVED BY: DATE:

APPROVED BY: DATE:  
APPROVED BY: DATE:



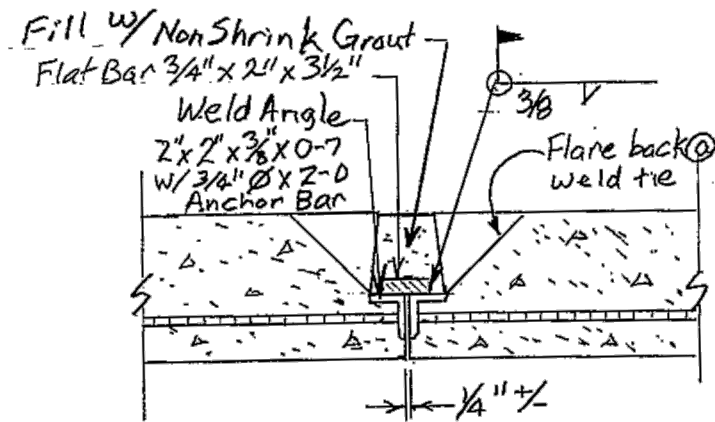
Montana Fish  
Wildlife & Parks

Bridge End Bent  
Buffalo Mirage Fishing Access Site - Bridge Replacement



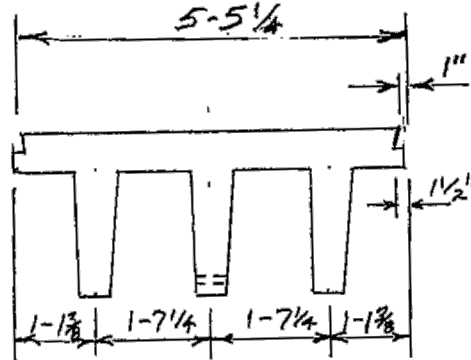
SHEET: 8 of 9





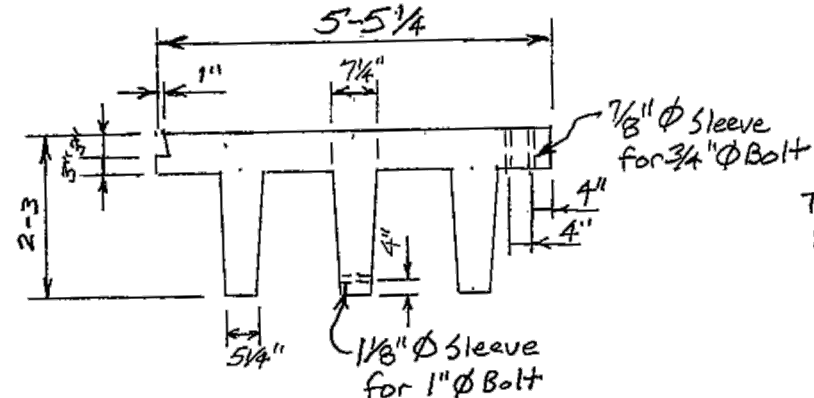
**FLANGE CONNECTION DETAIL**

Scale: 1/2" = 1'-0"



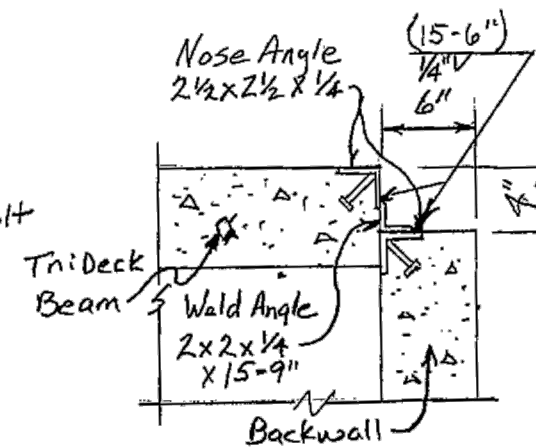
**INTERIOR BEAM SECTION**

Scale: 3/8" = 1'-0"



**EXTERIOR BEAM SECTION**

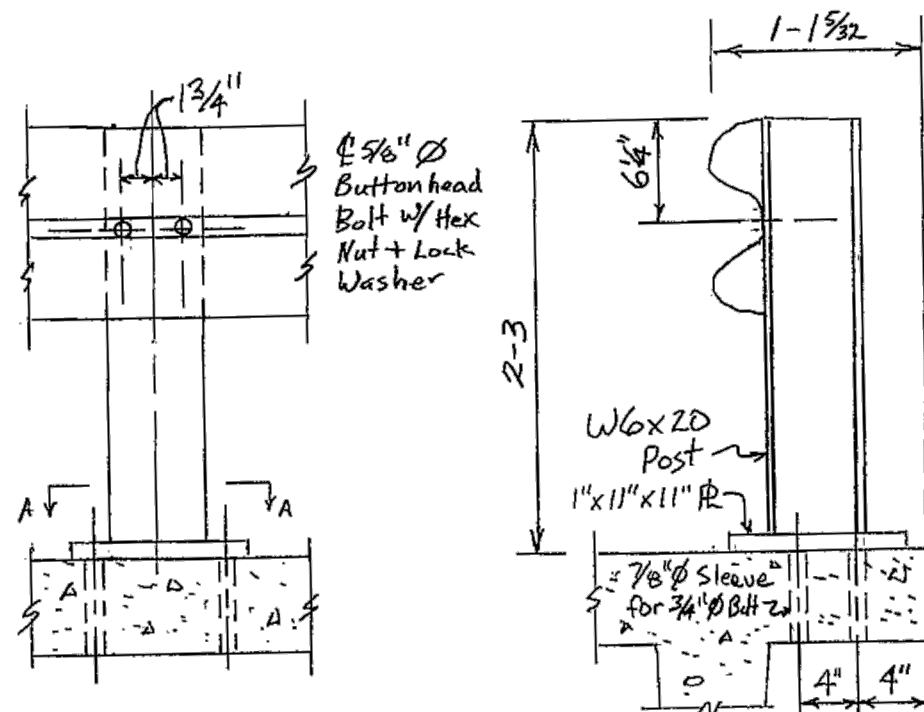
Scale: 3/8" = 1'-0"



**ROADWAY NOTCH DETAIL**

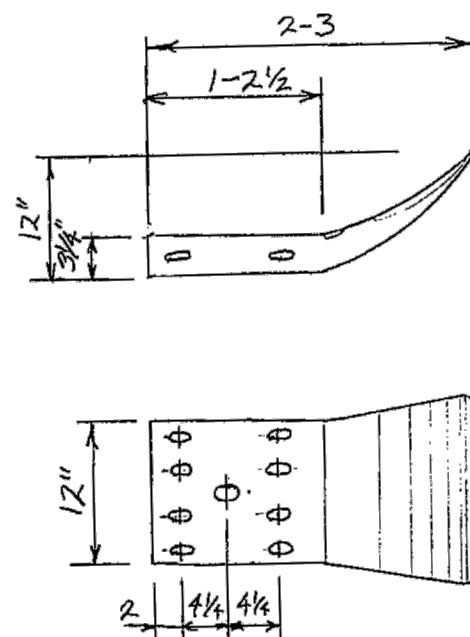
Scale: 1" = 1'-0"

Note: Include backwall, nose angle & weld angle in unit price bid for concrete.

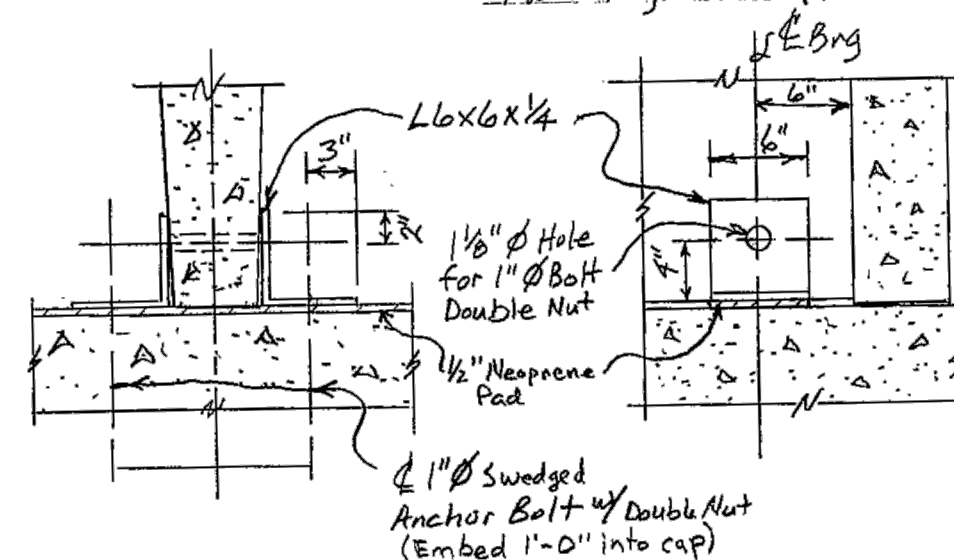


**GUARDRAIL POST DETAIL**

Scale: 1" = 1'-0"

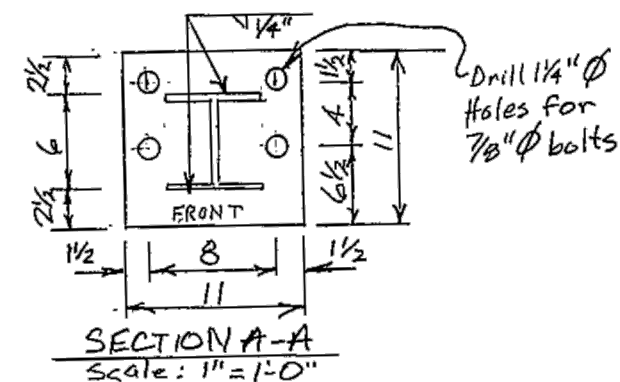


**FLARE GUARDRAIL TERMINAL (OR EQUIVALENT)**



**BEAM TO CAP ATTACHMENT DETAIL**

Scale: 1" = 1'-0"



**SECTION A-A**

Scale: 1" = 1'-0"

**NOTES:**

**PRESTRESSING STEEL:** USE 0.50" DIA OR 0.60" DIA 7 STRAND PRESTRESSING STEEL.

**BEAM LENGTH:** INCREASE THE OVERALL LENGTH OF THE BEAM 0.0075"/FT OF LENGTH TO ALLOW FOR ELASTIC SHORTENING, SHRINKAGE, AND CREEP.

**HARDWARE:** OBTAIN APPROVAL OF THE ENGINEER FOR ALL HARDWARE INCORPORATED IN THE BEAM PRIOR TO FABRICATION. INCLUDE ALL COSTS TO FURNISH AND INSTALL REQUIRED HARDWARE IN THE UNIT PRICE BID FOR PRESTRESSED TRI-DECK BEAMS.

USE STRUCTURAL STEEL MEETING THE REQUIREMENTS OF AASHTO M270 GRADE 36 EMBEDDED ANGLES AND SLEEVES. USE HEADED SHEAR STUDS MEETING THE REQUIREMENTS OF AASHTO M169 GRADES 1010 THROUGH 1020.

**Calvin O. Frank, PE**  
**Consulting Engineer**  
**Buffalo, MT 59418**

Calvin O. Frank June 3, 2019  
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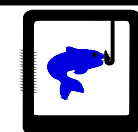
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APPROVED BY: DATE:



**Montana Fish & Wildlife**

**Bridge Miscellaneous Details**  
**Buffalo Mirage Fishing Access Site - Bridge Replacement**



**SHEET**  
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